Applicants: Klaus LORENZ, et al.

Response to Office Action mailed: March 20, 2009

Response Filed: June 18, 2009

II. AMENDMENTS TO THE CLAIMS

The below listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently Amended) A defoaming agent for cementitious compositions comprising a mixture of at least one polyethylene oxide derivative and at least one nonionic defoaming agent, wherein the polyethylene oxide derivative has at one end a hydrophobic group with at least one of a branched structure and an unsaturated bond, and at the other end an anionic group, wherein the unsaturated bond is optionally a double bond polyethylene oxide derivative is a compound expressed by formula I:

 $X-(EO)_a-Y$ (I)

wherein X is a hydrophobic group comprising a branched structure and an unsaturated bond; wherein the unsaturated bond is a double bond: Y is an anionic group; EO is - CH₂CH₂O- and a is an integer from 6 to 100.

2-3. (Cancelled)

4. (Currently Amended) The defoaming agent according to claim [[3]] 1 wherein a is an integer from 15 to 60.

5. (Currently Amended) The defoaming agent according to claim 1, wherein the hydrophobic group comprising at least one of a branched structure and an unsaturated bond is expressed by formula II:

2

Applicants: Klaus LORENZ, et al.

Response to Office Action mailed: March 20, 2009

Response Filed: June 18, 2009

wherein Z is O or an amine; R^1 , R^2 and R^3 are each independently alkyl or phenyl, naphthyl, alkenyl, alkylene oxide with 2 to 4 carbon atoms or any derivatives thereof, and R^2 and R^3 may also be each independently H, with the proviso that R^1 is not alkyl when R^2 and R^3 are both H.

- 6. (Previously Presented) The defoaming agent according to claim 1, wherein the anionic group is -SO₃M, -(CH₂CH₂)OSO₃M, -R⁴COOM (wherein R⁴ is -C_mH_{2m}- (in which m is an integer 10 > m > 0) or a phenyl group), -PO₃M or -CO(CH₂)_nCOOM (wherein M is Na salt, K salt, Ca salt, Mg salt, NH₄ salt or H, n is 2 or 3):
- 7. (Previously Presented) The defoaming agent according to claim 1 wherein the nonionic defoaming agent is expressed by formula III:

$$R^5O-(AO)_b-R^6$$
 (III)

wherein R⁵ and R⁶ are each independently an aliphatic hydrocarbon with 10 to 25 carbon atoms, an alkyl group with 1 to 5 carbon atoms or H; AO is a block polymer and/or a random polymer constituted of alkylene oxide with 2 to 3 carbon atoms and b is an integer from 5 to 500.

8. (Previously Presented) The defoaming agent according to claim 1 wherein the polyethylene oxide derivative and the nonionic defoaming agent are at a ratio in the range of 20:80 to 60:40 (vvt%).

Applicants: Klaus LORENZ, et al.

Response to Office Action mailed: March 20, 2009

Response Filed: June 18, 2009

9. (Original) The defoaming agent according to claim 7, wherein the nonionic defoaming agent, when converted to polyethylene glycol, has a weight average molecular weight in the range from 300 to 30,000 and the weight ratio of the ethylene oxide in said

molecular weight is in the range of 5 to 80%.

10. (Currently Amended) A water-reducing composition comprising a blend of a

polycarboxylate-type high performance air-entraining (AE) water-reducing agent and a

defoaming agent aecording-to-claim-l- for cementitious compositions comprising a

mixture of at least one polyethylene oxide derivative and at least one nonionic

defoaming agent, wherein the polyethylene oxide derivative has at one end a

hydrophobic group with at least one of a branched structure and an unsaturated bond.

and at the other end an anionic group, wherein the unsaturated bond is optionally a

double bond.

11. (Previously Presented) A method of defoaming a cementitious composition by the

addition to the composition of a defoaming agent according to claim 1.

12. (Previously Presented) The defoaming agent of claim 6 wherein m is 1 or 2.

13. (Currently Amended) The A defoaming agent according to claim 3 for cementitious

compositions comprising a mixture of at least one polyethylene oxide derivative and at

least one nonionic defoaming agent, wherein the polyethylene oxide derivative has at

one end a hydrophobic group with at least one of a branched structure and an

unsaturated bond, and at the other end an anionic group, wherein the unsaturated bond

is optionally a double bond, wherein the hydrophobic group comprising at least one of a

branched structure and an unsaturated bond is expressed by formula II:

4

Applicants: Klaus LORENZ, et al.

Response to Office Action mailed: March 20, 2009

Response Filed: June 18, 2009

wherein Z is O or an amine; R^1 , R^2 and R^3 are each independently alkyl or phenyl, naphthyl, alkenyl, alkylene oxide with 2 to 4 carbon atoms or any derivatives thereof, and R^2 and R^3 may also be each independently H, with the proviso that R^1 is not alkyl when R^2 and R^3 are both H.

- 14. (Currently Amended) The defoaming agent according to claim [[3]] 13, wherein the anionic group is $-SO_3M$, $-(CH_2CH_2)OSO_3M$, $-R^4COOM$ (wherein R^4 is $-C_mH_{2m}$ (in which m is an integer 10 > m > 0) or a phenyl group), $-PO_3M$ or $-CO(CH_2)_nCOOM$ (wherein M is Na salt, K salt, Ca salt, Mg salt, NH₄ salt or H, n is 2 or 3).
- 15. (Previously Presented) The defoaming agent of claim 14 wherein m is 1 or 2.
- 16. (Currently Amended) The defoaming agent according to claim [[3]] 13, wherein the nonionic defoaming agent is expressed by formula III:

$$R^5O-(\Lambda O)_b-R^6$$
 (III)

wherein R⁵ and R⁶ are each independently an aliphatic hydrocarbon with 10 to 25 carbon atoms, an alkyl group with 1 to 5 carbon atoms or H; AO is a block polymer and/or a random polymer constituted of alkylene oxide with 2 to 3 carbon atoms and b is an integer from 5 to 500.

Applicants: Klaus LORENZ, et al.

Response to Office Action mailed: March 20, 2009

Response Filed: June 18, 2009

17. (Currently Amended) A water-reducing composition comprising a blend of a polycarboxylate-type high performance air-entraining (AE) water-reducing agent and a defoaming agent according to claim [[3]] 13.

- 18. (Currently Amended) A method of defoaming a cementitious composition by the addition to the composition of a defoaming agent according to claim [[3]] 13.
- 19. (Currently Amended) The defoaming agent according to claim 4, wherein the hydrophobic group comprising at least one of a branched structure and an unsaturated bond is expressed by formula 11:

wherein Z is O or an amine; R^1 , R^2 and R^3 are each independently alkyl or phenyl, naphthyl, alkenyl, alkylene oxide with 2 to 4 carbon atoms or any derivatives thereof, and R^2 and R^3 may also be each independently H, with the proviso that R^1 is not alkyl when R^2 and R^3 are both H.

20. (Previously Presented) The defoaming agent according to claim 4, wherein the anionic group is -SO₃M, -(CH₂CH₂)OSO₃M, -R⁴COOM (wherein R⁴ is -C_mH_{2m}- (in which m is an integer 10 > m > 0) or a phenyl group), -PO₃M or -CO(CH₂)_nCOOM (wherein M is Na salt, K salt, Ca salt, Mg salt, NH₄ salt or H, n is 2 or 3).

Applicants: Klaus LORENZ, et al.

Response to Office Action mailed: March 20, 2009

Response Filed: June 18, 2009

21. (Previously Presented) The defoaming agent according to claim 4 wherein the nonionic defoaming agent is expressed by formula III:

$$R^5O-(\Lambda O)_b-R^6$$
 (III)

wherein R⁵ and R⁶ are each independently an aliphatic hydrocarbon with 10 to 25 carbon atoms, an alkyl group with 1 to 5 carbon atoms or H; AO is a block polymer and/or a random polymer constituted of alkylene oxide with 2 to 3 carbon atoms and b is an integer from 5 to 500.

22. (New) A water-reducing composition comprising a blend of a polycarboxylate-type high performance air-entraining (AE) water-reducing agent and a defoaming agent according to claim 1.